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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,521	07/24/2003	Hideki Kosugi	240704US2	8150
22850	7590	12/08/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			GLEITZ, RYAN M	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 12/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/625,521

Applicant(s)

KOSUGI ET AL.

Examiner

Ryan Gleitz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-14,20-25,27-33 and 39 is/are rejected.
- 7) ☒ Claim(s) 7,15-19,26 and 34-38 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/24/03; 10/24/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the charge applying device as a roller or a brush as recited in claims 9-11 and 13 must be shown or the feature(s) canceled from the claim(s). This feature is presently shown only in figure 8 as a corona charger. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

Claims 4, 5, 17, 18, 23, 24, 36, and 37 are objected to because of the following informalities:

“comprise” should be --comprises-- (claim 4, line 5; claim 5, line 5; claim 17, line 5; claim 18, line 5; claim 23, line 5; claim 24, line 5; claim 36, line 5; and claim 37, line 5).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 2, 20, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Kimura (JP 08-272222).

Kimura discloses an image forming apparatus including an image carrier (10) on which a toner image is to be formed; and a recording medium support member (31) configured to convey the recording medium, carrying the toner image thereon, in cooperation with the image carrier (10); wherein the image carrier (10) and the recording medium support member (31) are driven

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such that a surface of the image carrier (10) and a surface of the recording medium support member (31) move in a same direction as each other, as seen at a contact position and shown in figure 2.

Power supplies HV1 and HV2 create an electric field, forcing the toner image toward the image carrier (10), and an electric field, forcing the toner image toward the recording medium, formed between the surface of the image carrier (10) and the surface of the recording medium at positions upstream and downstream, respectively, of the contact position in a direction of movement of the recording medium.

Regarding claims 2 and 21, a voltage having the same polarity as that of the toner image is applied from a bias supply to the holding roller and a voltage having a polarity opposite to that of the toner is applied from the power supply to the transfer wire (abstract, lines 10-13). Note that the English abstract contains a typographical error transposing HV1 and HV2, made apparent from review of the figures. A first voltage applying device (HV2) is configured to apply a voltage identical in polarity with the toner to part of a reverse surface of the recording medium support member (31) upstream of the contact position; and a second voltage applying device (HV1) is configured to apply a voltage opposite in polarity to the toner to part of the reverse surface of the recording medium support member (31) positioned at or downstream of the contact position in the direction of movement of the recording medium.

Regarding claim 39, the image forming apparatus of Kimura also reads on the image forming method of using the image forming apparatus.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (JP 08-272222) in view of Till et al. (US 4,736,227).

Kimura disclose the first and second voltage applying devices above but do not disclose that each comprises a roller.

However, Till et al. disclose an image forming apparatus including first and second voltage applying devices, each comprising a roller (66, 70) having opposite polarities to transfer a toner image.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the corona of Kimura with a roller as taught by Till et al. to carry out a

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transfer operation. Till et al. teach that corona and rollers are equivalent transfer devices (figs. 2-3; col. 5, line 63 - col. 6, line 2).

Claims 4 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (JP 08-272222) in view of Mochizuki (JP 04-098278).

Kimura discloses the first and second voltage applying devices above but do not disclose that each comprises a brush.

However, Mochizuki disclose an image forming apparatus including first and second voltage applying devices (30, 40), each comprising a brush (31, 41) to transfer and destaticize without generating ozone.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the first and second voltage applying devices of Kimura with the brushes taught by Mochizuki to carry out a transfer operation and a destaticizing operation without generating ozone by carrying out the transfer operation and the destaticizing operation utilizing triboelectricity without utilizing a corona discharge phenomenon (abstract, lines 1-4).

Claims 5, 6, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (JP 08-272222) in view of Takase (US 5,970,296).

Kimura discloses the first and second voltage applying devices above but does not disclose that each comprises a blade or a combination of two of a roller, a brush and a blade.

However, Takase discloses an image forming apparatus including first and second transfer devices, each comprising a blade (33, 22) in figure 8, a corona (34) and a blade (22) in figure 9, a brush (31) and a blade (22) in figure 6, and a roller (31) and a blade (22) in figure 7.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the first and second voltage applying devices of Kimura with the blades or a combination of two of a roller, a brush and a blade taught by Takase in figure 6-9 as equivalent devices for transferring a toner image.

Claims 8-13, 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (JP 08-272222) in view of Matsuura et al. (US 5,740,508).

Kimura discloses the image forming apparatus above but does not disclose a charge applying means upstream of a contact position.

However, Matsuura et al. disclose an image forming apparatus including a pretransfer charge applying means configured to apply a charge identical in polarity (abstract, line 2) with the toner to the surface of the recording medium (14) at a position upstream of a contact position where the surface of the image carrier (8) and the surface of the recording medium (14) contact each other. The charge applying means is shown as a roller (24) in figure 9, a brush (26) in figure 7, and a corona (21) in figure 6. As a roller (24), the charge applying means bifunctions as a registration roller configured to convey the recording medium toward the contact position (col. 11, lines 19-27).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the image forming apparatus of Kimura with the pretransfer charge applying means taught by Matsuura et al. to suppress airborne toner dispersion (col. 8, lines 16-17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the brush charge applying means of Matsuura to be a blade. The suggestion for doing so would have been that Matsuura teaches that brushes and blades are equivalent charging members when discussing a separate charging process in the image forming apparatus. A conductive film, blade, roller or the like alternatively may be used in place of the brush (col. 4, lines 56-58).

Claims 14 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura (JP 08-272222) in view of Tanigawa et al. (US 5,940,668).

Kimura discloses the image forming apparatus above but does not disclose an intermediate transfer member.

However, Tanigawa et al. disclose an image forming apparatus including an intermediate image transfer body (20) to which toner images are sequentially transferred one above the other to complete a composite image (col. 6, lines 54-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the image forming apparatus of Kimura to include an intermediate image transfer body. Intermediate transfer bodies are notoriously known in the art to reduce wear on the photoconductor drum and increase the lifetime of the photoconductor drum.

Allowable Subject Matter

Claims 7, 15-19, 26, and 34-38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mizuishi et al. (JP 10-282798) disclose first and second biased transfer members having opposite polarity power supplies to prevent toner scattering.

Kono et al. (JP 2003-057963) disclose first and second biased transfer members having opposite polarity power supplies in contact with an intermediate transfer belt.

Contact Information

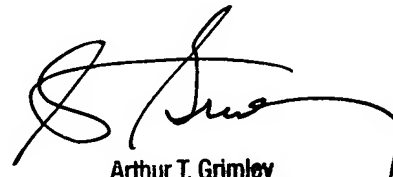
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Gleitz whose telephone number is (571) 272-2134. The examiner can normally be reached on Monday-Friday between 9:00AM and 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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